**Fubon EasyPy**

**規格書**

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| 版本 | V1.0.0 |
| 日期 | 2022/07/01 |
| 單位 |  |

**Fubon EasyPy架構**

1. **TradePy(Request/Response)**
2. **ReplyPy(Publish/Subscribe)**
3. **QueryPy(Request/Response)**

**Clinet版(可改Server版)**  **資訊流(zeroMQ)**

Fubon XXX API

(

IP:

Port:

Channel:

)

Client

(Python)

EasyRobot

( Methods,

Events)

Methods

(Json Format)

ThreadTask

(Queue

Management

Message)

Client

(Python)

Methods(Object)

Event EventArgs

Methods

(Json Format)

Object

EventArgs(Json Format)

1. **QuotePy(Publish/Subscribe)**

**Server版(可改Client版)**  **資訊流(Kafka)**

Quote XXX API

(

IP:

Port:

)

**Kafka Consumer**

(Object)

Client

(.Net, Python, office)

**Kafka**

**Producer**

Quote Server

(Methods,

Event)

Event

(EventAgrs)

ThreadTask

(Queue

Management

Message)

Client

(.Net, Python, office)

Methods

(Object)

Methods(Object)

Event EventArgs

Object

EventArgs

Methods

(Object)

**文件修改記錄表**

**文件編號：Fubon-EasyPy-001**

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1. **EasyPy簡述**

**背景描述**

EasyPy主要是提供Python使用者的程式化交易開發工具，它僅需透過簡單的引用方式即可讓使用者應用在富邦證券/期貨的期現貨交易。使用者可以全完不需要了解及認識後端系統程式的複雜架構及語法，僅要了解EasyPy提供的幾個主要函式(Method)，即可達成交易與部位管理的目的。

EasyPy使用Message Queue與後端系統進行資料交換，主要包含以下幾個功**能TradePy**(Order、Cancel及Replace分別包含在五個市場類別中Stocks、SubBorkerages、Futures、OverseasFutures及Foreigns)**、QueryPy**(QryInventory、QryRights、QryCommodities、QryOpenInterest及QryLossReport)**、ReplyPy**(RequestMsg及ExecuteMsg)及**QuotePy**(Stocks、SubBorkerages、Futures、OverseaFutures及Foreigns)，使用者透過這些簡單的函式與Types即可完成交易與管理功能，讓Python交易者輕鬆建置自己的程式交易系統。

**使用範圍**

此工具未來計劃提供給富邦證券/期貨客戶，並以Python進行程式化交易的客群使用。我們僅提供程式相關工具與說明，並未對其使用者所開發的交易系統進行語法上的監測與控管，故客戶若使用此工具進行交易盈虧請自行負責。

另外，EasyPy包含了行情源提供，因此相關資料在未經Fubon同意的情況下，使用者不得轉發至第三方平台作為它用。若使用者未遵守此項約束可能會觸及相關的法律問題，故請使用者需特別注意。

**工具建置**

EasyPy使用Python 3.8建構程式，並將程式打包為Package發版至Pypi.org，同時，使用者也可以在GitLab(url:)找到相關的程式包及說明檔。

1. **設計與命名規則**

**2.1** **目錄設計及命名規則**

專案目錄命名同專案名稱，另專案目錄下不會再產生新的資料夾。

**2.2** **系統命名規則**

此專案非系統，故無系統命名問題。只給予簡單的類別名稱EasyPy，以及類別中的函式如TreadePy、QueryPy、ReplyPy及QuotePy。

**2.3** **程式設計及命名規則**

1. 專案目錄同專案名稱。

2. 程式碼中的變數命名盡量以完整名稱為主，或前綴加\_及\_x。

3. 程式碼中的參(引)數命名盡量以完整名稱為主。

4. 程式碼中的函數(方法)盡量以單字完整名稱描述，且單字第1碼小寫組合。

5. 程式碼中的事件回傳引數無前綴。

1. **測試**

EasyPy單元測試。如下

**3.1** **TradePy**

**單元測試：**

股票

|  |  |
| --- | --- |
| 函數 | stock |
| 說明 | stock(self, \_account, \_symbol, \_price, \_qty, \_orderNo: str="", \_side: SideType=0, \_tradeType: TradeType=0, \_orderType: OrderType=0,\  \_priceType: PriceType=0, \_sessionType: SessionType=0, \_timeinForce: TimeInForce=0, \_commodityCode: CommodityCode=0,\  \_branchCode: str="0000", \_cusDiffCode: str="None"):  TradePy類別中的stock對應至Stocks類別, 並以tradeType參數來區別委託類型為Order、Cancel或Replace。並以不同的參數來產生要向後傳給主機的Json封裝文檔。使用的參數請見參數說明 |
| 指令 | Order:  obj.stock(, "1101", "7654321", 50, 3)  Cancel:  obj.stock("7654321", "1101", 51, 2, "000111", 0, 1)  OR  obj.stock("7654321", "1101", 51, 2, "000111", SideType.Buy, TradeType.Cancel)  Replace:  PX:  obj.stock("7654321", "1101", 51, 3, "000111", 0, 2)  OR  obj.stock("7654321", "1101", 51, 3, "000111", SideType.Buy, TradeType.ChgPX)  QTY:  obj.stock("7654321", "1101", 51, 2, "000111", 0, 3)  OR  obj.stock("7654321", "1101", 51, 2, "000111", SideType.Buy, TradeType.ChgQty) |
| 結果 | Order:  {"\_xMarket": {"\_xTrade": {"\_xType": "order", "orderDate": "20220725", "orderType": {"name": "現股", "value": 0}, "price": 50, "priceType": {"name": "限價", "value": 0}, "qty": 3, "sessionType": {"name": "整股", "value": 0}, "side": {"name": "Buy", "value": 0}, "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "TSE", "value": 0}, "marketType": {"name": "Stocks", "value": 0}, "symbol": "1101", "tradeType": {"name": "Order", "value": 0}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "TSE", "value": 0}, "salesCode": "0000", "serialNo": "00000001", "systemCode": "FEP", "tradeCode": "STK00000001", "tradeState": null}  Cancel:  {"\_xMarket": {"\_xTrade": {"\_xType": "cancel", "orderDate": "20220725", "orderNo": "000111", "orderType": {"name": "現股", "value": 0}, "price": 51, "priceType": {"name": "限價", "value": 0}, "qty": 2, "sessionType": {"name": "整股", "value": 0}, "side": {"name": "Buy", "value": 0}, "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "TSE", "value": 0}, "marketType": {"name": "Stocks", "value": 0}, "symbol": "1101", "tradeType": {"name": "Cancel", "value": 1}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "TSE", "value": 0}, "salesCode": "0000", "serialNo": "00000005", "systemCode": "FEP", "tradeCode": "STK00000005", "tradeState": null}  Replace:  PX:  {"\_xMarket": {"\_xTrade": {"\_xType": "changePX", "changeType": {"name": "PX", "value": 0}, "orderDate": "20220725", "orderNo": "000111", "orderType": {"name": "現股", "value": 0}, "price": 51, "priceType": {"name": "限價", "value": 0}, "qty": 3, "sessionType": {"name": "整股", "value": 0}, "side": {"name": "Buy", "value": 0}, "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "TSE", "value": 0}, "marketType": {"name": "Stocks", "value": 0}, "symbol": "1101", "tradeType": {"name": "ChgPX", "value": 2}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "TSE", "value": 0}, "salesCode": "0000", "serialNo": "00000001", "systemCode": "FEP", "tradeCode": "STK00000001", "tradeState": null}  QTY:  {"\_xMarket": {"\_xTrade": {"\_xType": "changeQTY", "changeType": {"name": "QTY", "value": 1}, "orderDate": "20220725", "orderNo": "000111", "orderType": {"name": "現股", "value": 0}, "price": 51, "priceType": {"name": "限價", "value": 0}, "qty": 2, "sessionType": {"name": "整股", "value": 0}, "side": {"name": "Buy", "value": 0}, "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "TSE", "value": 0}, "marketType": {"name": "Stocks", "value": 0}, "symbol": "1101", "tradeType": {"name": "ChgQty", "value": 3}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "TSE", "value": 0}, "salesCode": "0000", "serialNo": "00000003", "systemCode": "FEP", "tradeCode": "STK00000003", "tradeState": null} |

期貨

|  |  |
| --- | --- |
| 函數 | future |
| 說明 | future(self, \_account, \_symbol, \_month, \_price, \_qty, \_side: SideType=0, \_tradeType: TradeType=0, \_priceType: PriceType=0,\  \_timeinForce: TimeInForce=0, \_positionType: PositionType=2, \_commodityCode: CommodityCode=2, \_orderKind: OrderKind=0,\  \_callPut: CallPutCode=0, \_orderNo: str="", \_branchCode: str="0000", \_strike: str="", \_strike2: str="",\  \_month2: str="", \_subAccount: str="", \_cusDiffCode: str="None"):  TradePy類別中的future對應至Futures類別, 並以tradeType參數來區別委託類型為Order、Cancel或Replace。並以不同的參數來產生要向後傳給主機的Json封裝文檔。使用的參數請見參數說明 |
| 指令 | Order:  obj.future("7654321", "MXF", "202208", 15000, 2)  Cancel:  obj.future("7654321", "MXF", "202208", 15001, 1, "111111", 0, 1)  OR  obj.future("7654321", "MXF", "202208", 15001, 1, "111111", SideType.Buy, TradeType.Cancel)  Replace:  PX:  obj.future("7654321", "MXF", "202208", 1500, 2, "111111", 0, 2)  OR  obj.future("7654321", "MXF", "202208", 15001, 2, "111111", SideType.Buy, TradeType.ChgPX)  QTY:  obj.future("7654321", "MXF", "202208", 15001, 1, "111111", 0, 3)  OR  obj.future("7654321", "MXF", "202208", 15001, 1, "111111", SideType.Buy, TradeType.ChgQty) |
| 結果 | Order:  {"\_xMarket": {"\_xTrade": {"\_xType": "order", "callPut": {"name": "Non", "value": 0}, "month": "202208", "month2": "", "orderDate": "20220725", "positionType": {"name": "自動", "value": 2}, "price": 15000, "priceType": {"name": "限價", "value": 0}, "qty": 2, "side": {"name": "Buy", "value": 0}, "strike": "", "strike2": "", "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "FUT", "value": 2}, "marketType": {"name": "Futures", "value": 2}, "orderKind": {"name": "FUTSingle", "value": 0}, "subAccount": "", "symbol": "MXF", "tradeType": {"name": "Order", "value": 0}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "FUT", "value": 1}, "salesCode": "0000", "serialNo": "00000008", "systemCode": "FEP", "tradeCode": "FUT00000008", "tradeState": null}  Cancel:  {"\_xMarket": {"\_xTrade": {"\_xType": "cancel", "callPut": {"name": "Non", "value": 0}, "month": "202208", "month2": "", "orderDate": "20220725", "orderNo": "111111", "positionType": {"name": "自動", "value": 2}, "price": 15001, "priceType": {"name": "限價", "value": 0}, "qty": 1, "side": {"name": "Buy", "value": 0}, "strike": "", "strike2": "", "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "FUT", "value": 2}, "marketType": {"name": "Futures", "value": 2}, "orderKind": {"name": "FUTSingle", "value": 0}, "subAccount": "", "symbol": "MXF", "tradeType": {"name": "Cancel", "value": 1}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "FUT", "value": 1}, "salesCode": "0000", "serialNo": "00000006", "systemCode": "FEP", "tradeCode": "FUT00000006", "tradeState": null}  Replace:  PX:  {"\_xMarket": {"\_xTrade": {"\_xType": "changePX", "callPut": {"name": "Non", "value": 0}, "changeType": {"name": "PX", "value": 0}, "month": "202208", "month2": "", "orderDate": "20220725", "orderNo": "111111", "positionType": {"name": "自動", "value": 2}, "price": 15001, "priceType": {"name": "限價", "value": 0}, "qty": 2, "side": {"name": "Buy", "value": 0}, "strike": "", "strike2": "", "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "FUT", "value": 2}, "marketType": {"name": "Futures", "value": 2}, "orderKind": {"name": "FUTSingle", "value": 0}, "subAccount": "", "symbol": "MXF", "tradeType": {"name": "ChgPX", "value": 2}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "FUT", "value": 1}, "salesCode": "0000", "serialNo": "00000001", "systemCode": "FEP", "tradeCode": "FUT00000001", "tradeState": null}  QTY:  {"\_xMarket": {"\_xTrade": {"\_xType": "changeQTY", "callPut": {"name": "Non", "value": 0}, "changeType": {"name": "QTY", "value": 1}, "month": "202208", "month2": "", "orderDate": "20220725", "orderNo": "111111", "positionType": {"name": "自動", "value": 2}, "price": 15001, "priceType": {"name": "限價", "value": 0}, "qty": 1, "side": {"name": "Buy", "value": 0}, "strike": "", "strike2": "", "timeinForce": {"name": "ROD", "value": 0}}, "account": "7654321", "branchCode": "0000", "commodityCode": {"name": "FUT", "value": 2}, "marketType": {"name": "Futures", "value": 2}, "orderKind": {"name": "FUTSingle", "value": 0}, "subAccount": "", "symbol": "MXF", "tradeType": {"name": "ChgQty", "value": 3}}, "className": "TradePy-交易用類別", "cusDiffCode": "None", "exchangeType": {"name": "FUT", "value": 1}, "salesCode": "0000", "serialNo": "00000004", "systemCode": "FEP", "tradeCode": "FUT00000004", "tradeState": null} |

以上，符合TradePy函式與參數設定所產生之結果。

**3.2 QueryPy**

**單元測試：**

以上，符合QueryPy函式與參數設定所產生之結果。

**3.3 ReplyPy**

**單元測試：**

以上，符合ReplyPy函式與參數設定所產生之結果。

**3.4 QuotePy**

**單元測試：**

以上，符合QuotePy函式與參數設定所產生之結果。

1. **安裝**

**EasyPy Package**

1. **範例**
2. **設定檔(.config)**

1. **參數**

**7.1** **TradePy類別**

提供給Python建立交易參數的介接接口，並將參數封裝成Json格式向後傳遞。

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| systemCode | 系統代碼 | string |  | FEP |
| className | 型別名稱 | string |  | TradePy-交易用類別 |
| salesCode | 營業員代碼 | string |  |  |
| exchangeType | 交易所別 | enum |  | TSE, FUT, FOR, 複委託, 海期依交易所別 |
| serialNo | 委託序號 | string |  | 委託必要參數 |
| tradeCode | 辨識碼 | string |  | 用戶端對應碼 |
| \_xMarket | 市場型態 | class |  | Stocks, Futures, SubBorkerages, OverseasFutures, Foreigns |
| tradeState | 委託狀態 | string |  | 回應委託狀態 |
| cusDiffCode | 顧客自定義 | string |  | 用戶端對應碼 |

**7.1.1 stock函數**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| \_tradeType | 交易別 | TradeType |  | Enum |
| \_symbol | 標的代碼 | string |  |  |
| \_account | 交易帳號 | string |  |  |
| \_orderType | 委託別 | OrderType |  | Enum |
| \_priceType | 價格別 | PriceType |  | Enum |
| \_sessionType | 盤別 | SessionType |  | Enum |
| \_timeinForce | 委託條件 | TimeInForce |  | Enum |
| \_price | 委託價 | float |  |  |
| \_qty | 委託量 | int |  |  |
| \_side | 買賣別 | SideType |  | Enum |
| \_commodityCode | 商品別 | CommodityCode |  | 默認參數, CommodityCode.TSE |
| \_orderNo | 委託單號 | string |  | 刪改單時必要參數 |
| \_branchCode | 分公司代碼 | string |  |  |
| \_cusDiffCode | 顧客自定義 | string |  |  |

**7.1.2 subBorkerages函數**

**7.1.3 future函數**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| \_tradeType | 交易別 | TradeType |  | Enum |
| \_symbol | 標的代碼 | string |  |  |
| \_account | 交易帳號 | string |  |  |
| \_subAccount | 子帳 | string |  |  |
| \_priceType | 價格別 | PriceType |  | Enum |
| \_timeinForce | 委託條件 | TimeInForce |  | Enum |
| \_price | 委託價 | float |  |  |
| \_qty | 委託量 | int |  |  |
| \_side | 買賣別 | SideType |  | Enum |
| \_month | 月份 | string |  |  |
| \_positionType | 倉別 | PositionType |  | 默認參數, PositionType.自動 |
| \_commodityCode | 商品別 | CommodityCode |  | 默認參數, CommodityCode.FUT |
| \_orderKind | 單種別 | OrderKind |  | 默認參數, OrderKind.FUTSingle |
| \_callPut | 買賣權 | CallPutCode |  | 默認參數, CallPutCode.Non |
| \_orderNo | 委託單號 | string |  | 刪改單時必要參數 |
| \_branchCode | 分公司代碼 | string |  |  |
| \_strike | 履約價 | string |  |  |
| \_strike2 | 履約價2 | string |  |  |
| \_month2 | 月份2 | string |  |  |
| \_cusDiffCode | 顧客自定義 | string |  |  |

**7.1.4 overseasFuture函數**

**7.1.5 foreign函數**

**7.1.6 jsonFormat函數**

不需要代參數，可完整封裝TradePy類別為Json格式。

**7.2** **Stocks類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| marketType | 市場別 | MarketType |  | Enum, Default= MarketType.Stocks |
| commodityCode | 商品別 | CommodityCode |  | Enum, Default=None |
| branchCode | 分公司代碼 | string |  |  |
| symbol | 標的代號 | string |  |  |
| account | 帳號 | string |  |  |
| tradeType | 交易別 | TradeType |  | Enum, Default= TradeType.Order |
| \_xTrade | 交易型態 | class |  | Order, Cancel, Replace |

**7.2.1 Order類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| orderDate | 交易日 | string |  | Default= None |
| orderType | 委託別 | OrderType |  | Enum, Default =OrderType.現股 |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| sessionType | 盤別 | SessionType |  | Enum, Default = SessionType.整股 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 委託價 | float |  | 0 |
| qty | 委託量 | Int |  | 0 |
| \_xType | 交易型別 | string |  | order |

**7.2.2 Cancel類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| orderDate | 交易日 | string |  | Default= None |
| orderType | 委託別 | OrderType |  | Enum, Default =OrderType.現股 |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| sessionType | 盤別 | SessionType |  | Enum, Default = SessionType.整股 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 委託價 | float |  | 0 |
| qty | 委託量 | Int |  | 0 |
| orderNo | 委託單號 | string |  | Default= None |
| \_xType | 交易型別 | string |  | cancel |

**7.2.3 Replace類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| changeType | 修改別 | ChangeType |  | Enum, Default=ChangeType.PX |
| orderDate | 交易日 | string |  | Default= None |
| orderType | 委託別 | OrderType |  | Enum, Default =OrderType.現股 |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| sessionType | 盤別 | SessionType |  | Enum, Default = SessionType.整股 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 修改價 | float |  | 0 |
| qty | 減少量 | Int |  | 0 |
| orderNo | 委託單號 | string |  | Default= None |
| \_xType | 交易型別 | string |  | changePX, changeQTY |

**7.3 SubBrokerages類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
|  |  |  |  |  |
|  |  |  |  |  |
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**7.4 Futures類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| marketType | 市場別 | MarketType |  | Enum, Default= MarketType.Stocks |
| commodityCode | 商品別 | CommodityCode |  | Enum, Default=None |
| branchCode | 分公司代碼 | string |  |  |
| symbol | 標的代碼 | string |  |  |
| account | 帳號 | string |  |  |
| subAccount | 子帳 | string |  |  |
| tradeType | 交易別 | TradeType |  | Enum, Default= TradeType.Order |
| orderKind | 單種別 | OrderKind |  | None |
| \_xTrade | 交易型態 | class |  | Order, Cancel, Replace |

**7.4.1 Order類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| orderDate | 交易日 | string |  | Default= None |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 委託價 | float |  | 0 |
| qty | 委託量 | Int |  | 0 |
| month | 委託月份 | string |  |  |
| month2 | 委託月份2 | string |  |  |
| strike | 履約價 | string |  |  |
| strike2 | 履約價2 | string |  |  |
| positionType | 倉別 | PositionType |  | Enum, Default= None |
| callPut | 買賣權 | CallPutCode |  | Enum, Default= None |
| \_xType | 交易型別 | string |  | order |

**7.4.2 Cancel類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| orderDate | 交易日 | string |  | Default= None |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 委託價 | float |  | 0 |
| qty | 委託量 | Int |  | 0 |
| month | 委託月份 | string |  |  |
| month2 | 委託月份2 | string |  |  |
| strike | 履約價 | string |  |  |
| strike2 | 履約價2 | string |  |  |
| positionType | 倉別 | PositionType |  | Enum, Default= None |
| callPut | 買賣權 | CallPutCode |  | Enum, Default= None |
| orderNo | 委託單號 | string |  | Default= None |
| \_xType | 交易型別 | string |  | cancel |

**7.4.3 Replace類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
| side | 買賣別 | SideType |  | Enum, Default= SideType.Buy |
| changeType | 修改別 | ChangeType |  | Enum, Default=ChangeType.PX |
| orderDate | 交易日 | string |  | Default= None |
| priceType | 價格別 | PriceType |  | Enum, Default =PriceType.限價 |
| timeinForce | 委託條件 | TimeInForce |  | Enum, Default = TimeInForce.ROD |
| price | 修改價 | float |  | 0 |
| qty | 減少量 | Int |  | 0 |
| month | 委託月份 | string |  |  |
| month2 | 委託月份2 | string |  |  |
| strike | 履約價 | string |  |  |
| strike2 | 履約價2 | string |  |  |
| positionType | 倉別 | PositionType |  | Enum, Default= None |
| callPut | 買賣權 | CallPutCode |  | Enum, Default= None |
| orderNo | 委託單號 | string |  | Default= None |
| \_xType | 交易型別 | string |  | changePX, changeQTY |

**7.****5 OverseasFutures類別**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
|  |  |  |  |  |
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**7.6 Foreigns類別**

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| --- | --- | --- | --- | --- |
| 參數 | 說明 | 型別 | 長度 | 備註 |
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**7.7** **ObjJsonEncoding類別**

進行Json封裝時需要使用的集合型別。

**Enum列舉型別**

|  |  |  |
| --- | --- | --- |
| 列舉名稱 | 說明 | 列舉參數 |
| MarketType | 市場型態 | Stocks, SubBorkerages, Futures, OverseasFurutes, Foreigns |
| ExchangeType | 交易所型態 | TSE, FUT, FOR #複委託, 海期依交易所別 |
| TradeType | 交易型態 | Order, Cancel, ChgPX, ChgQty |
| OrderType | 委託型態 | 現股, 代辦融資, 代辦融券, 融資, 融券, 先賣沖 |
| PriceType | 價格型態 | 限價, 平盤, 跌停, 漲停, 市價, 範圍市價 |
| SessionType | 盤別型態 | 整股, 盤後定盤, 零股, 盤中零股 |
| TimeInForce | 委託條件 | ROD, IOC, FOK |
| ChangeType | 修改型態 | PX, QTY |
| SideType | 買賣型態 | Buy, Sell |
| PositionType | 部位型態 | 新倉, 平倉, 自動, 當沖 |
| CommodityCode | 商品型態 | TSE, OTC, FUT, OPT |
| OrderKind | 單種型態 | FUTSingle, FUTCompound, OPTSingle, OPTCompound |
| CallPutCode | 買賣權型態 | Non, Call, Put |

**附錄A**

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